Claims

1. A method for computing a performance parameter of a first portfolio including one or more securities, the method comprising:

providing one or more baseline portfolios each including one or more securities,

for each of the portfolios, computing a financial return measure based on financial returns of the portfolio,

for each different security included in one or more of the portfolios, computing a quality measure based on the relative weights of the security in the portfolios and the financial return measures for the portfolios, and

computing the performance parameter for the first portfolio based on

the one or more quality measures, and

the relative weights

of the one or more securities included in the first portfolio.

2. The method of claim 1, wherein computing the financial return measure for a portfolio includes:

computing the financial return measure for the portfolio based on regressing financial returns for the portfolio in excess of a risk-free rate on a benchmark associated with an asset pricing model.

3.   The method of claim 1, wherein the financial return measure includes one of: a Jensen's alpha, a Capital Asset Pricing Model alpha, a Fama-French alpha, and a four-factor alpha.

4.   The method of claim 1, wherein computing the quality measure for a security further includes:

computing the quality measure for a security based on, for each portfolio that includes the security, the product of the financial return measure for the portfolio and the relative weight of the security in the portfolio.

5.   The method of claim 4, wherein computing the quality measure for the security further includes:

computing the quality measure for the security based on a sum of the one or more products, and

normalizing the quality measure for the security based on a sum of the relative weights of the security in the portfolios.

6.   The method of claim 1, wherein computing the performance parameter for the first portfolio includes:

computing the performance parameter for the first portfolio based on, for each security included in the first portfolio, the product of the quality measure for the security and the relative weight of the security in the portfolio.

7.   The method of claim 6, wherein computing the performance parameter for the first portfolio includes:

computing the performance parameter for the first portfolio based on a sum of the one or more products.

8.   The method of claim 1, wherein the securities include one or more of: a bond, a currency, a commodity, a futures contract, an option contract, and a stock.

9.   The method of claim 1, wherein the portfolios are mutual funds.

10.   The method of claim 1, further comprising:

      iteratively computing the performance parameter for the first portfolio.

11.   The method of claim 10, wherein iteratively computing the performance parameter for the first portfolio includes:

      for each of the one or more baseline portfolios, computing a performance parameter,

      for each portfolio, using the computed performance parameter as the financial return measure, and

      re-computing the performance parameter for the first portfolio.

12.   A method for computing a performance parameter of a first portfolio including one or more securities, the method comprising:

      providing one or more baseline portfolios each including one or more securities,

      for each of the portfolios, computing a financial return measure based on financial returns of the portfolio, and

      computing the performance parameter for the first portfolio based on

the financial return measures of the portfolios, and

for each of the one or more baseline portfolios, the degree of similarity in securities holdings between the first portfolio and the baseline portfolio.

13. The method of claim 12, wherein computing the performance parameter for the first portfolio includes:

computing the performance parameter for the first portfolio based on a weighted average of the financial return measures of the first portfolio and the one or more baseline portfolios, where the weight of a financial return measure of a portfolio in the weighted average is based on a degree of similarity in securities holdings between the portfolio and the first portfolio.

14. The method of claim 13, wherein the degree of similarity in securities holdings between a portfolio and the first portfolio is based on, for each security included in one or more of the portfolio and the first portfolio, a product of the relative weight of the security in the portfolio and the relative weight of the security in the first portfolio.

15. The method of claim 14, wherein the degree of similarity in securities holdings between the portfolio and the first portfolio is based on a sum of the one or more products.

16. The method of claim 15, wherein the product is normalized based on a sum of the relative weights of the security in each of the portfolios.

17. The method of claim 12, wherein the securities include one or more of: a bond, a currency, a commodity, a futures contract, an option contract, and a stock.

18. The method of claim 12, wherein the portfolios are mutual funds.

19. The method of claim 12, further comprising:

iteratively computing the performance parameter for the first portfolio.

20. The method of claim 19, wherein iteratively computing the performance parameter for the first portfolio includes:

for each of the one or more baseline portfolios, computing a performance parameter,

for each portfolio, using the computed performance parameter as the financial return measure, and

re-computing the performance parameter for the first portfolio.

21. A processor program for computing a performance parameter of a first portfolio including one or more securities, the processor program being stored on a processor-readable medium and including instructions to cause a processor to:

receive data based on the first portfolio and the one or more first securities included in the first portfolio,

receive data based on one or more baseline portfolios and one or more securities included in the one or more baseline portfolios,

for each of the portfolios, compute a financial return measure based on financial returns of the portfolio,

for each different security included in one or more of the portfolios, compute a quality measure based on the relative weights of the security in the portfolios and the financial return measures for the portfolios, and

compute the performance parameter for the first portfolio based on

the one or more quality measures, and

the relative weights

of the one or more securities included in the first portfolio.

22. The processor program of claim 21, wherein the instructions to compute the financial return measure for a portfolio include instructions to:

compute the financial return measure for the portfolio based on regressing financial returns for the portfolio in excess of a risk-free rate on a benchmark associated with an asset pricing model.

23. The processor program of claim 21, wherein the instructions to compute the quality measure for a security include instructions to:

compute the quality measure for a security based on, for each portfolio that includes the security, the product of the financial return measure for the portfolio and the relative weight of the security in the portfolio.

24. The processor program of claim 21, wherein the instructions to compute the performance parameter include instructions to:

compute the performance parameter for the first portfolio based on, for each security included in the first portfolio, the product of the quality measure for the security and the relative weight of the security in the portfolio.

25. A method of computing a performance parameter of a first portfolio including one or more securities, the method comprising:

providing one or more baseline portfolios each including one or more securities,

for each of the portfolios, computing a financial return measure based on one or more financial returns of the portfolio,

for each security purchased or sold in the first portfolio during a time period, computing a quality measure based on:

the fraction of all purchases of the security during the time period in the portfolios accounted for by each portfolio,

the fraction of all sales of the security during the time period in the portfolios accounted for by each portfolio, and

the financial return measure of each portfolio, and

computing the performance parameter for the first portfolio based on:

the one or more quality measures, and

the changes in the relative weights

for each security purchased or sold in the first portfolio during the time period.

26. The method of claim 25, wherein computing the financial return measure for a portfolio includes:

computing the financial return measure for the portfolio based on regressing financial returns for the portfolio in excess of a risk-free rate on a benchmark associated with an asset pricing model.

27. The method of claim 25, wherein the financial return measure includes one of: a Jensen's alpha, a Capital Asset Pricing Model alpha, a Fama-French alpha, and a four-factor alpha.

28. The method of claim 25, wherein computing the quality measure for a security further includes:

computing the quality measure for a security based on:

for each portfolio including a purchase of the security during the time period, a first product of the fraction of all purchases of the security during the time period in the portfolios accounted for by the portfolio and the financial return measure of the portfolio, and

for each portfolio including a sale of the security during the time period, a second product of the fraction of all sales of the security during the time period in the portfolios accounted for by the portfolio and the financial return measure of the portfolio.

29. The method of claim 28, wherein computing the quality measure for the security further includes:

computing the quality measure based on a first sum of the one or more first products and a second sum of the one or more second products.

30. The method of claim 29, wherein computing the quality measure for the security further includes:

computing the quality measure for the security based on a difference measure of the first sum and the second sum.

31. The method of claim 30, wherein the difference measure includes one of: a difference, a difference of squares, and a square root of a difference of squares.

32. The method of claim 25, wherein computing the performance parameter for the first portfolio includes:

computing the performance parameter for the first portfolio based on

for each security purchased in the first portfolio, a first product of the fraction of all purchases in the first portfolio accounted for by the security and the quality measure of the security, and

for each security sold in the first portfolio, a second product of the fraction of all sales in the first portfolio accounted for by the security and the quality measure of the security.

33. The method of claim 32, wherein computing the performance parameter for the first portfolio further includes:

computing the performance parameter based on a first sum of the one or more first products and a second sum of the one or more second products.

34. The method of claim 33, wherein computing the performance parameter for the first portfolio further includes:

computing the performance parameter for the first portfolio based on a difference measure of the first sum and the second sum.

35. The method of claim 34, wherein the difference measure includes one of: a difference, a difference of squares, and a square root of a difference of squares.

36. The method of claim 25, wherein the securities include one or more of: a commodity, a futures contract, an option contract, and a stock.

37. The method of claim 25, wherein the portfolios are mutual funds.

38. The method of claim 25, further comprising:

iteratively computing the performance parameter for the first portfolio.

39. The method of claim 38, wherein iteratively computing the performance parameter for the first portfolio includes:

for each of the one or more baseline portfolios, computing a performance parameter,

for each portfolio, using the computed performance parameter as the financial return measure, and

re-computing the performance parameter for the first portfolio.

40. A method of computing a performance parameter of a first portfolio including one or more securities, the method comprising:

providing one or more baseline portfolios each including one or more securities,

for each of the portfolios, computing a financial return measure based on one or more financial returns of the portfolio, and

computing the performance parameter for the first portfolio based on:

the financial return measures for each of the portfolios, and

for each of the one or more baseline portfolios, the degree of similarity in changes in securities holdings during a time period between the first portfolio and the baseline portfolio.

41. The method of claim 40, wherein computing the performance parameter for the first portfolio includes:

computing the performance parameter for the first portfolio based on a pseudo-weighted average of the financial return measures of the first portfolio and the one or more baseline portfolios, where the weight of a financial return measure of a portfolio in the pseudo-weighted average is based on a degree of similarity in changes in securities holdings during the time

period between the portfolio and the first portfolio, and where the sum of the weights in the pseudo-weighted average is zero.

42. The method of claim 41, wherein the degree of similarity in changes in securities holdings between a portfolio and the first portfolio is based on:

for each security purchased in both portfolios during the time period, a first product of the fraction of all purchases of the security in the portfolios accounted for by the portfolio and the fraction of all purchases in the first portfolio accounted for by the security,

for each security sold in both portfolios during the time period, a second product of the fraction of all sales of the security in the portfolios accounted for by the portfolio and the fraction of all sales in the first portfolio accounted for by the security,

for each security sold in the portfolio and purchased in the first portfolio during the time period, a third product of the fraction of all sales of the security in the portfolios accounted for by the portfolio and the fraction of all purchases in the first portfolio accounted for by the security, and

for each security purchased in the portfolio and sold in the first portfolio during the time period, a fourth product of the fraction of all purchases of the security in the portfolios accounted for by the portfolio and the fraction of all sales in the first portfolio accounted for by the security.

43. The method of claim 42, wherein the degree of similarity in changes in securities holdings between the portfolio and the first portfolio is based on:

a first sum of the first products, a second sum of the second products, a third sum of the third products, and a fourth sum of the fourth products.

44. The method of claim 43, wherein the degree of similarity in changes in securities holdings between a portfolio and the first portfolio is based on:

a fifth sum of the first sum and the second sum,

a sixth sum of the third sum and the fourth sum, and

a difference measure of the fifth sum and the sixth sum.

45. The method of claim 44, wherein the difference measure include one of: a difference, a difference of squares, and a square root of a difference of squares.

46. The method of claim 40, wherein the securities include one or more of: a commodity, a futures contract, an option contract, and a stock.

47. The method of claim 40, wherein the portfolios are mutual funds.

48. The method of claim 40, further comprising:

iteratively computing the performance parameter for the first portfolio.

49. The method of claim 48, wherein iteratively computing the performance parameter for the first portfolio includes:

for each of the one or more baseline portfolios, computing a performance parameter,

for each portfolio, using the computed performance parameter as the financial return measure, and

re-computing the performance parameter for the first portfolio.

50. A processor program for computing a performance parameter of a first portfolio including one or more securities, the processor program being stored on a processor-readable medium and including instructions to cause a processor to:

receive data based on the first portfolio and the one or more securities included in the first portfolio,

receive data based on one or more baseline portfolios and one or more securities included in the one or more baseline portfolios,

for each of the portfolios, compute a financial return measure based on one or more financial returns of the portfolio,

for each security purchased or sold in the first portfolio during a time period, compute a quality measure based on:

the fraction of all purchases of the security during the time period in the portfolios accounted for by each portfolio,

the fraction of all sales of the security during the time period in the portfolios accounted for by each portfolio, and

the financial return measure of each portfolio, and

compute the performance parameter for the first portfolio based on:

the one or more quality measures, and

the changes in the relative weights

for each security purchased or sold in the first portfolio during the time period.

51. The processor program of claim 50, wherein the instructions to compute the financial return measure for a portfolio include instructions to:

compute the financial return measure for the portfolio based on regressing financial returns for the portfolio in excess of a risk-free rate on a benchmark associated with an asset pricing model.

52. The processor program of claim 50, wherein the instructions to compute the quality measure for a security include instructions to:

compute the quality measure for a security based on:

for each portfolio including a purchase of the security during the time period, a first product of the fraction of all purchases of the security during the time period in the portfolios accounted for by the portfolio and the financial return measure of the portfolio, and

for each portfolio including a sale of the security during the time period, a second product of the fraction of all sales of the security during the time period in the portfolios

accounted for by the portfolio and the financial return measure of the portfolio.

53. The processor program of claim 52, wherein the instructions to compute the performance parameter for the first portfolio include instructions to:

compute the performance parameter for the first portfolio based on

for each security purchased in the first portfolio, a first product of the fraction of all purchases in the first portfolio accounted for by the security and the quality measure of the security, and

for each security sold in the first portfolio, a second product of the fraction of all sales in the first portfolio accounted for by the security and the quality measure of the security.

54. A processor program for computing a performance parameter of a first portfolio including one or more securities, the processor program being stored on a processor-readable medium and including instructions to cause a processor to:

receive data based on the first portfolio and the one or more securities included in the first portfolio,

receive data based on one or more baseline portfolios and one or more securities included in the one or more baseline portfolios,

for each of the portfolios, computing a financial return measure based on one or more financial returns of the portfolio, and

computing the performance parameter for the first portfolio based on the financial return measures for each of the portfolios and at least one of:

for each of the one or more baseline portfolios, the degree of similarity in securities holdings between the first portfolio and the baseline portfolio, and

for each of the one or more baseline portfolios, the degree of similarity in changes in securities holdings during a time period between the first portfolio and the baseline portfolio.

55. The processor program of claim 54, wherein the instructions to compute the performance parameter based on the degree of similarity in securities holdings between the first portfolio and the baseline portfolio include instructions to:

compute the performance parameter for the first portfolio based on a weighted average of the financial return measures of the first portfolio and the one or more baseline portfolios, where the weight of a financial return measure of a portfolio in the weighted average is based on a degree of similarity in securities holdings between the portfolio and the first portfolio.

56. The processor program of claim 55, wherein the degree of similarity in securities holdings between a portfolio and the first portfolio is based on, for each security included in one or more of the portfolio and the first portfolio, a product of the relative weight of the security in the portfolio and the relative weight of the security in the first portfolio.

57. The processor program of claim 54, wherein the instructions to compute the performance parameter based on the degree of similarity in changes in securities holdings during a time period between the first portfolio and the baseline portfolio include instructions to:

compute the performance parameter for the first portfolio based on a pseudo-weighted average of the financial return measures of the first portfolio and the one or more baseline portfolios, where the weight of a financial return measure of a portfolio in the pseudo-weighted average is based on a degree of similarity in changes in securities holdings during the time period between the portfolio and the first portfolio, and where the sum of the weights in the pseudo-weighted average is zero.

58. The processor program of claim 57, wherein the degree of similarity in changes in securities holdings between a portfolio and the first portfolio is based on:

for each security purchased in both portfolios during the time period, a first product of the fraction of all purchases of the security in the portfolios accounted for by the portfolio and the fraction of all purchases in the first portfolio accounted for by the security,

for each security sold in both portfolios during the time period, a second product of the fraction of all sales of the security in the portfolios accounted for by the portfolio and the fraction of all sales in the first portfolio accounted for by the security,

for each security sold in the portfolio and purchased in the first portfolio during the time period, a third product of

the fraction of all sales of the security in the portfolios accounted for by the portfolio and the fraction of all purchases in the first portfolio accounted for by the security, and

for each security purchased in the portfolio and sold in the first portfolio during the time period, a fourth product of the fraction of all purchases of the security in the portfolios accounted for by the portfolio and the fraction of all sales in the first portfolio accounted for by the security.